AUTHOR INDEX, VOLUME 8

Abbott, B. W., Cornish, R. H., and Weil, N. A.: Techniques for studying strain rate effects in brittle materials, 151

Achhammer, B. G.: see Parker, M. S.

Aggebrandt, L. G., and Samuelson, O.: Penetration of water-soluble polymers into cellulose fibers, 2801

Alcalay, H. H.: see Vieth, W. R.

Anderson, A. G. H.: A medium-speed tensile testing machine and some dynamic data produced thereby, 169

Arthur, J. C., Jr., and Blouin, F. A.: Radiochemical yields of graft polymerization reactions of cellulose, 2813

Baddour, R. F., Michaels, A. S., Bixler, H. J., DeFilippi, R. P., and Barrie, J. A.: Transport of liquids in structurally modified polyethylene, 897

Banerjee, D.: see Chakravarty, S.

Barnabeo, A. E.: see Reinking, N. H.

Bar-Nun, A.: see Feit, B.-A.

Barrie, J. A.: see Baddour, R. F.

Ban, T.: see Kurokawa, M.

Beachell, H. C., and Ngoc Son, C. P.: Stabilization of polyurethane to thermal degradation, 1089

Becker, H., and Zachar, A. W.: Exploratory studies in photomechanics, 413

——: see Colao, A.

Bernstein, B. S.: see Odian, G.

Bevilacqua, E. M., English, E. S., and Gall, J. S.: Mechanism of polyethylene oxidation, 1691

——, and Norling, P. M.: Products of the oxidation of rubber. I. Compounds boiling lower than water, 1029

Bills, K. W., Jr.: see Farris, R. J.

Biswas, A. B.: see Chandra, S.

Bixler, H. J.: see Baddour, R. F.

——: see Michaels, A. S.

Blaikie, K. G.: see Georgieff, K. K.

Blouin, F. A.: see Arthur, J. C., Jr.

Bobalek, E. G., and Chiang, M. T.: Synthesis and properties of some alkyls of more complex carboxyl functionality, 1147

——, Moore, E. R., Levy, S. S., and Lee, C. C.: Some implications of the gel point concept to the chemistry of alkyd resins, 625

Bodnar, M.: see Hoyt, H. E.

Boonstra, B. B.: see Brennan, J. J.

Bosley, D. E.: X-ray determination of crystallinity in poly(ethylene terephthalate), 1521

Bostick, E. E.: see Morton, M.

Brennan, J. J., Jermyn, T. E., and Boonstra, B. B.: Carbon black–polymer interaction: a measure of reinforcement, 2687

Bristow, G. M.: Use of sol-gel analysis to estimate chain scission during vulcanization. Part II. Peroxide vulcanization of synthetic *cis*-polyisoprene, 1619

Brodnyan, J. G., and Konen, T.: Experimental study of the mechanism of film formation, 687

Bryant, G. M.: see Higgins, T. D.

Bueche, F.: see Dudek, T. J.

Bushman, C. J.: see Huff, T.

Calhoun, R. R., J.: see Kahn, L. D.

Cantow, M. J. R., Porter, R. S., and Johnson, J. F.: Column fractionation of polymers. IV. Large-scale polyester column fractionation, 2963

Cardillo, R. M.: Dynamic testing of elastomer mountings, 53

Carelton, L. T., and Mishuck, E.: Dry-blending behavior of commercial polyvinyl chloride, 1221

Case, L. C.: Unsymmetrical diisocyanates. II, 533

——, and Li, K. W.: Unsymmetrical diisocyanates. III. The kinetics of reactions of DEMDI, 935

Cavender, J. V.: see Huff, T.

Chakravarty, S., Banerjee, D., and Sircar, A. K.: Thiol group formation in the vulcanization of natural rubber, 2261

Chandra, S., Roy-Chowdhury, P., and Biswas, A. B.: Ultrasonic degradation of sol rubber in solution, 2653

Chang, F. S. C.: Stress relaxation and hysteresis at various strain rates, 37

Chatterjee, P. K., and Sircar, A. K.: Kinetic studies on the vulcanization

reaction accelerated with 2-mercaptobenzothiazole, 1667
Chen, C. S. H.: see Schiller, A. M.
Chiang, M. T.: see Bobalek, E. G.
Chmura, M.: see McAbee, E.
Colao, A., and Becker, H.: Thermal expansion of photomechanical materials, 613
Cole, T. B.: see Sheehan, W. C.
Colvin, J. R.: Oxidation of cellulose microfibril segments by alkaline silver nitrate and its relation to the fine structure of cellulose, 2763
Conley, R. T.: see Jackson, W. M.
Convalle, G.: see Gechele, G. B.
Cook, N. P.: see Furno, F. J.
Cooney, J. L.: Effect of morphology on biaxial stress rupture of polyethylene, 1889
Coplan, M. J.: see Freeman, H. I.
Cornish, R. H.: see Abbott, B. W.
Cox, J. M., Wright, B. A., and Wright, W. W.: Thermal degradation of fluorine-containing polymers. Part I. Degradation in vacuum, 2935
——: Thermal degradation of fluorine-containing polymers. Part II. Degradation in oxygen, 2951
Crosato-Arnaldi, A., Palma, G., Peggion, E., and Talamini, G.: Investigations on thermal dehydrochlorination of poly(vinyl chloride), 747
Cunnean, J. I., and Lee, D. F.: Effect of organic sulfur compounds on the autoxidation and stress relaxation of peroxide vulcanizates of natural rubber, 699
Cztonkowska, Z.: see Krozer, Sz.
D'Amato, D. A.: Adaptation of a ballistic tool for obtaining strain rates above 20,000 inch/inch/minute, 197
Daniel, J. H., Jr.: see Saxon, R.
Dapas, P. F.: see Sarko, A.
Dasgupta, S., and Mital, P. K.: Dielectric properties of an epoxy resin, 2299
Daues, G. W.: see Mortimer, G. A.
De Filippi, R. P.: see Baddour, R. F.
Dermody, W. J.: see Meltzer, T. H.
Dogliotti, E. C., and Yelland, W. E. C.: Effect of strain rate on the viscoelastic properties of high polymeric fibrous materials, 211
Donaruma, L. G.: see Scelia, R. P.
D'Onofrio, A. A.: New catalysts for the polymerization of diisopropenylbenzenes, 521
Dudek, T. J., and Bueche, F.: Tensile strength of gum and reinforced EPR and SBR vulcanizates, 555
Duncalf, B., and Dunn, A. S.: Light-sensitized crosslinking of polyvinyl alcohol by chromium compounds, 1763
Dunn, A. S.: see Duncalf, B.
Dunn, J. R., Moore, C. G., and Trego, B. R.: Stress relaxation of unaccelerated natural rubber–sulfur vulcanizates before and after treatment with triphenylphosphine, 723
Dunn, T.: see Pritchard, R.
Durocher, T. E.: see Lloyd, W. B.
Eichhorn, J.: Synergism of free radical initiators with self-extinguishing additives in vinyl aromatic polymers, 2497
Einhorn, S. C., and Turetzky, S. B.: Rheological properties of SBR polymers by capillary extrusion, 1257
Ekvall, R. A., and Low, J. R., Jr.: Temperature dependence of tensile properties of polycarbonate films, 1677
Elgood, E. J., Heath, N. S., O'Brien, B. J., and Solomon, D. H.: Effect of molecular weight distribution on the sprayability of poly(methyl methacrylate), 881
Ellis, K. C., and Warwicker, J. O.: Crystallite orientation in regenerated cellulose filaments. II. Effect of degree of polymerization and stretch, 1583
English, E. S.: see Bevilacqua, E. M.
Farris, R. J., and K. W. Bills: Dilatation of granular filled elastomers under high rates of strain, 25
Farrow, B., and Simmens, S. C.: Some observations on the melting behavior of textile fibers. Part I. Core melting during hot-stretching of nylon, 2545
Feist, W. C.: see Isaacson, R. B.
Feit, B.-A., Bar-Nun, A., Lahav, M., and Zilkha, A.: Anionic graft polymerization of vinyl monomers on cellulose and polyvinyl alcohol, 1869
Feldman, D.: see Simionescu, C.
Fels, I. G.: Hydration and density of collagen and gelation, 1813
Fettes, E. M., and Mark, H.: Cleavage of disulfide polymers. III. By disulfides, 603
Fletcher, J. R., Polgar, L., and Solomon, D. H.: Molecular weight distribution in alkyd resins. Part I, 659
Foster, G. N., Row, S. B., and Griskey, R. G.: Infrared spectrometry of polymers

in the overtone and combination regions, 1357
Frabetti, A. J.: see Vieth, W. R.
Freeman, H. I., and Coplan, M. J.: Fiber melt extrusion: deviations from steady-state behavior in the spin line, 2389
Frisch, K. C.: see Wissman, H. G.
Frost, L. W., and Kesse, I.: Spontaneous degradation of aromatic polypyromellitamic acids, 1039
Fujino, K., Ogawa, Y., and Kawai, H.: Generalized model representation relating the degree of mixing to the rheological behavior of a mechanical mixture of two polymer components, 2147
Fujita, H.: see Homma, T.
Fuqua, S. A., and Silverstein, R. M.: Phenylene-perfluoroalkylene silicones, 1729
Furno, F. J., Webb, R. S., and Cook, N. P.: High speed puncture testing of thermoplastics, 101
Gall, J. S.: see Bevilacqua, E. M.
Gechele, G. B.: see Pezzin, G.
——, and Convalle, G.: Antistatic polystyrene, 801
Gent, A. N., Lindley, P. B., and Thomas, A. G.: Cut growth and fatigue of rubbers. I. The relationship between cut growth and fatigue, 455
Georgieff, K. K.: Polymerization activity test for methy methacrylate, 503
——: Polymerization activity test for vinyl chloride, 2213
——, Blaikie, K. G., and White, R. C.: The relative inhibitory effect of various compounds on the rate of polymerization of vinyl acetate. II. Effect of conjugated and unconjugated acetylenes and olefins, 889
Germino, F. J.: see Sarko, A.
Ghatge, N. D.: Cation exchange resins as catalysts in the preparation of polyesters, 1305
——, and Phadke, V. B.: Cyanuric chloride–sodium carbonate as blowing agent in rubber and plastics, 1297
Gilbert, R. D.: see White, W. W.
Gipstein, E.: see Wellisch, E.
Goldblum, K. B.: Detective work with high speed testing: The location of a phase change area, 111
Goring, D. A. I.: see Rezanowich, A.
Gorton, B. S.: Interaction of nylon polymers with epoxy resins in adhesive blends, 1287
Gotlib, Yu. Ya.: see Vol'kenshtein, M. V.
Gray, V. E., and Wright, J. R.: Measurement of photochemical degradation in certain plastics by color reactions with phenylenediamines, 1505
Greensmith, H. W.: Rupture of rubber. XI. Tensile rupture and crack growth in a noncrystallizing rubber, 1113
Griskey, R. G.: see Foster, G. N.
Groten, B.: see Kirshenbaum, I.
Gruver, J. T., and Rollmann, K. W.: Antioxidant properties of carbon black in unsaturated elastomers. Studies with *cis*-polybutadiene, 1169
Guglielmino, P.: see Mussa, C.
Haddon, W. F., Jr., Porter, R. S., and Johnson, J. F.: Characterization of polybutenes, 1371
Haigh, D. H.: see Roberts, C. W.
Hale, W. F.: see Reinking, N. H.
Hall, I. H.: Temperature-strain rate transformations with isotactic polypropylene at finite strains, 1577
——: The tensile properties of textile yarns at very high strain rates, 237
Halpern, B. D.: see Hoyt, H. E.
Hamner, W. F.: see Mortimer, G. A.
Hansen, C. M., and Sather, G. A.: Molecular weight distribution of a polyester, 2479
Harding, R. H., and Hilado, C. J.: Some relationships among strength, temperature, and chemical/physical structures in rigid urethane foams, 2445
——: see Hilado, C. J.
Hashimoto, O.: see Tanaka, A.
Hatch, M. J., and Lloyd, W. D.: Preparation and properties of a neophyl type anion exchange resin, 1659
Heath, N. S.: see Elgood, E. J.
Heitmiller, R. F., Naar, R. Z., and Zabusky, H. H.: Effect of homogeneity on viscosity in capillary extrusion of polyethylene, 873
Helfferich, F., and Luten, D. B., Jr.: Oxygen-transfer resins, a new type of oxidation-reduction polymers, 2899
Heslinga, A., and Schors, A.: Phenolic-formal resins, 1921
Higgins, T. D., and Bryant, G. M.: Influence of melt spinning variables on the tensile properties of high density polyethylene fibers, 2399
Hilado, C. J., and Harding, R. H.: Some relationships between water vapor permeability and chemical/physical

structure in rigid urethane foams, 2462 (*erratum*)
——: see Harding, R. H.
Homma, T., Kawahara, K., and Fujita, H.: Sedimentation analysis of styrene–butadiene copolymer rubber, 2853
Hoyt, H. E., Halpern, B. D., Tsou, K. C., Bodnar, M., and Tannar, W.: Evaluation of poly(2,6-dimethyl)-1,4-phenylene oxides and related copolymers for high temperature adhesive application, 1633
Hozumi, Y.: see Tanaka, A.
Huff, T., Bushman, C. J., and Cavender, J. V.: A study of the effect of branching on certain physical and mechanical properties of stereoregular polypropylene, 825
Hughes, M. A., and Sheldon, R. P.: Some thermal studies on poly(ethylene terephthalate), 1541
Huldy, H. J.: Gas permeability apparatus for films and sheets, 2883
Hutchinson, R. J.: see Moore, W. R.
Igarashi, S., Mita, I., and Kambe, H.: Thermogravimetric analysis of the effect of ionizing radiation on thermal stability of polyethylene, 1455
Ilkka, G. A.: see Trexler, H. E.
Ingram, A. R.: *N*-Chloro and *N*-nitroso compounds as synergists for the self-extinguishing action of bromine compounds in polystyrene, 2485
Inoue, M.: Crystallization and melting of copolymers of polyoxymethylene, 2225
Isaacson, R. B., Kirshenbaum, I., and Feist, W. C.: Properties of semicrystalline polyolefins: poly-4-methyl-1-pentene, 2789
Jackson, W. M., and Conley, R. T.: High temperature oxidative degradation of phenol–formaldehyde polycondensates, 2163
Jahn, A. K., and Vanderhoff, J. W.: Self-extinguishing polystyrene foaming-in-place beads, 2525
Jeanes, A., Pittsley, J. E., and Watson, P. R.: Extracellular polysaccharide produced from glucose by *Crytococcus laurentii* var. *flavescens* NRRL Y-1401: chemical and physical characterization, 2775
Jeffries, R.: The amorphous fraction of cellulose and its relation to moisture sorption, 1213
Johnson, J. F.: see Cantow, M. J. R.
——: see Haddon, W. F., Jr.
Johnson, P. R.: see Nersasian, A.
Jermyn, T. E.: see Brennan, J. J.
Jones, S. L.: see Torossian, K. A.
Jordan, E. F., Jr., and Wrigley, A. N.: Monomer reactivity ratios of *N*-octadecylacrylamide and *N*-allylstearamide, 527
Joshi, K. M.: see Suryanarayana, N. P.
Kahn, L. D., Calhoun, R. R., Jr., and Witnauer, L. P.: Modification of the Brice light-scattering photometer for photoelectric polarimetry by the Rouy method, 439
Kamagata, K.: see Minoura, Y.
Kambe, H.: see Igarashi, S.
Kammermeyer, K.: see Roberts, R. W.
Kawahara, K.: see Homma, T.
Kawai, H.: see Fujino, K.
Kelly, D. P., Melrose, G. J. H., and Solomon, D. H.: Thermosetting vinyl and acrylic copolymers 1919 (*erratum*)
Kelly, P.: see Pritchard, R.
Kesse, I.: see Frost, L. W.
King, K. F.: see Nersasian, A.
King, W. D.: see Stanonis, D. J.
Kirshenbaum, I., Wilchinsky, Z. W., and Groten, B.: Heat and entropy of fusion of polypropylene, 2723
——: see Isaacson, R. B.
Konen, T.: see Brodnyan, J. G.
Krasnansky, V. J.: see Parker, M. S.
Kraus, G., and Rollmann, K. W.: Behavior of *cis*-polybutadiene during mastication, 2585
Krozer, Sz., and Członkowska, Z.: Quelques remarques concernant le méchanisme de polymérisation en bloc du chlorure de vinyle, 1275
Kumar, A.: Kinetics of thermal polymerization of shellac. Part I. Kinetics and gelation studies, 1185
——: Kinetics of thermal polymerization of shellac. Part II, effect of catalysts, 1205
Kumins, C. A.: see Kwei, T. K.
Kurokawa, M. and Bau, T.: Slip deformation in drawn polyethylene films, 971
Kwei, T. K., and Kumins, C. A.: Polymer–filler interaction: vapor sorption studies, 1483
Lahav, M.: see Feit, B.-A.
Laible, R. C., and Supniak, R. H.: High speed testing as a measure of the resist-

ance to penetration of needle-punched felts, 283
Lake, G. J., and Lindley, P. B.: Cut growth and fatigue of rubbers. II. Experiments on a noncrystallizing rubber, 707
Larticle, M.: see Lefèbvre, S. G.
Laszkiewicz, B.: Effect of the concentration of phenyldichlorophosphine and reaction time on the intrinsic viscosity of copolymers of methyl methacrylate with phenyldichlorophosphine, 2117
Learmonth, G. S., and Wilson, T.: Thermal degradation of resins, 2873
Lee, C. C.: see Bobalek, E. G.
Lee, D. F.: see Cunneen, J. I.
Lefèbvre, S. G., Ludé, A. C., et Larticle, M.: Caractérisation de structures de fibres de cellulose régénérée par l'étude détaillée de leurs diagrammes de diffraction de rayons X et par divers traitements de gonflement. I. Etude détaillée des diagrammes de diffraction de rayons X de fibres et de feuilles d'hydrate de cellulose, 2305
Lestienne, F. C.: see Saxon, R.
Levy, S. S.: see Babalek, E. G.
Li, K. W.: see Case, L. C.
Lindley, P. B.: see Gent, A. N.
——: see Lake, G. J.
Linnig, F. J., Parks, E. J., and Wood, L. A.: Ethylene–propylene copolymers: crystallinity, infrared, and creep studies, 2645
Livingston, E. M.: see Peterson, C. M.
Lloyd, W. D.: see Hatch, M. J.
Lloyd, W. G., and Durocher, T. E.: Kinetic observations of the quaternization of poly (*ar*-vinylbenzyl chloride) with trimethylamine, 953
Lorenz, O.: see Scott, K. W.
Low, J. R., Jr.: see Ekvall, R. A.
Ludé, A. C.: see Lefèbvre, S. G.
Lund, J. K.: Geometry effects and high speed tensile behavior in styrene polyblend systems, 73
Luten, D. B., Jr.: see Helfferich, F.
Manabe, T.: Some problems in melt spinning processes. II. Molecular orientation in the course of melt spinning, 1097
Mark, H.: see Fettes, E. M.
Mason, J. H.: see Reinking, N. H.
Masters, A. T., and Richards, G. N.: Factors influencing the properties of pectic acid films, 813
Mathieson, A. R., and Whewell, C. S.: Acid–base properties of fibers. Part II. A polyelectrolyte theory of the combination of fibers with acids and bases, 2029
——, and Williams, P. E.: Acid–base properties of fibers. Part I. Nylon, 2009
Maurer, J. J., and Tsien, H. C.: Linear expansion measurements of polymers by means of a capacitance technique, 1719
MacAllister, R. V.: see Szczesniak, A. S.
McAbee, E., and Chmura, M.: Effect of rate and temperature on the tensile properties of double-base propellant, 3
McGraw, J.: see Norris, T. O.
Mehltretter, C. L.: see Otey, F. H.
Melrose, G. J. H., and Solomon, D. H.: Plasticization of methylolacrylamide copolymers by grafting onto a styrene-butadiene backbone, 1777
——: see Kelly, D. P.
Meltzer, T. H., and Dermody, W. J.: Temperature coefficient of vulcanization and equivalent cures for SBR hard rubber polyblends, 791
——: The influence of fillers and degree of vulcanization on the mechanical properties of hard rubber polyblends, 773
——, and Supnik, R. H.: High speed tensile testing as an index of the oxidative degradation of polyethylene resins, 89
——, and Tobolsky, A. V.: Hard rubber polyblends: Shear modulus–temperature relationships, 765
Menefee, E.: Stress relaxation after steady shearing: Applications and empirical representation, 849
Michaels, A. S., Vieth, W. R., and Bixler, H. J.: Gas permeability of highly oriented dibutyl maleate–ethylene copolymer films, 2735
——: see Baddour, R. F.
Mikolajewski, E., Swallow, J. E., and Webb, M. W.: Wet oxidation of undrawn nylon 66 and model amides, 2067
Miller, L. A.: see Whitfield, R. E.
Minoura, Y., and Kamagata, K.: Stress relaxation of raw natural rubber, 1077
Mishuck, E.: see Carelton, L. T.
Mita, I.: see Igarashi, S.
Mital, P. K.: see Dasgupta, S.
Miyahara, Y.: see Nomura, H.
Moore, C. G., and Trego, B. R.: Structural characterization of vulcanizates.

Part IV. Use of triphenylphosphine and sodium di-*n*-butyl phosphite to determine the structure of sulfur linkages in natural rubber, *cis*-1,4-polyisoprene, and ethylene–propylene rubber vulcanizate networks, 1957
——, and Watson, A. A.: Structural characterization of vulcanizates. Part III. The *cis*-1,4-polyisoprene tetramethylthiuram disulfide-zinc oxide system, 581
——: see Dunn, J. R.
Moore, E. R.: see Bobalek, E. G.
Moore, W. R., and Hutchinson, R. J.: Solvent power of solvents for poly(vinyl chloride), 2619
Morris, M. C.: Network characterization from stress-strain behavior at large extensions, 545
Mortimer, G. A., Daues, G. W., and Hamner, W. F.: Relationships between molecular weight, solution viscosity, and melt index for narrow distribution, high pressure polyethylene whole polymer. Fast M_N determinations, 839
Morton, M., Rembaum, A. A., and Bostick, E. E.: Block copolymerization of unsaturated monomers and octamethylcyclotetrasiloxane, 2707
Moseley, Jr., W. W.: Measurement and interpretation of nonlinear mechanical energy losses in high polymer fibers, 2095
Mussa, C., Sacerdote, P., Guglielmino, P., and Tablino, V.: Stress relaxation in molten polymers, 385
Myers, R. R., and Schultz, R. K.: Acrylic latex film formation in the critical temperature range, 755
Myers, W. T., Jr.: Eddy current drive and gas bearing bob suspension for use in viscometry, 863
Naar, R. Z.: see Heitmiller, R. F.
Nelson, M. L., and O'Connor, R. T.: Relation of certain infrared bands to cellulose crystallinity and crystal lattice type. Part I. Spectra of lattice types I, II, and III and of amorphous cellulose, 1311
——: Relation of certain infrared bands to cellulose crystallinity and crystal lattice type. Part II. A new infrared ratio for estimation of crystallinity in celluloses I and II, 1325
Nersasian, A., King, K. F., and Johnson, P. R.: Novel curing systems for chlorosulfonated polyethylene, 337
Newland, G. C., and Tamblyn, J. W.: Mechanism of ultraviolet stabilization of polymers by aromatic salicylates, 1949
Ngoc Son, C. P.: see Beachell, H. C.
Nielsen, L. E.: Mechanical behavior of some lightly crosslinked rubbers, 511
Nikitin, V. N.: see Vol'kenshtein, M. V.
Nomura, H., and Miyahara, Y.: Partial specific compressibility of polystyrene, 1643
——, Yamaguchi, S., and Miyahara, Y.: Partial specific compressibility of dextran, 2731
Norling, P. M.: see Bevilacqua, E. M.
Norris, T. O., and McGraw, J.: Gelatin coatings and tensile strength of gelatin films, 2139
Noyes, R. B.: Rapid bursting of tubular specimens, 141
O'Brien, B. J.: see Elgood, E. J.
O'Connor, R. T.: see Nelson, M. L.
Odian, G., and Bernstein, B. S.: Memory effects in irradiated polyethylene, 1853
Ogawa, Y.: see Fujino, K.
Okada, Y.: Effect of atmosphere on radiation-induced crosslinking of polyethylene. Part IV. Sensitizing effect of nitrous oxide and xenon, 467
Oprea, S.: see Simionescu, C.
Otey, F. H., Zagoren, B. L. and Mehltretter, C. L.: Determination of hydroxyl number of polyoxyalkylene ethers by reaction with toluene diisocyanate, 1985
Outhwaite, R. I., Singleton, G., and Ross, J. A.: A simple stress relaxometer and its use with vulcanized nitrile rubber/PVC compounds, 1007
Owens, D. K.: Friction of polymer films. I. Lubrication, 1465
——: Friction of polymer films. II. Effect of deformation properties, 1477
Palma, G.: see Crosato-Arnaldi, A.
Pariser, R.: see Yin, T. P.
Parker, M. S., Krasnansky, V. J., and Achhammer, B. G.: Effects of composition and irradiation on the glass transition temperature of methyl methacrylate-styrene copolymers, 1825
Parker, P. H., Jr.: Controlled polymerization in unsaturated polyesters. II. B-staging, 1443
Parks, C. R.: see Scott, K. W.

Parks, E. J.: see Linnig, F. J.
Parks, L. R., and Sperling, L. H.: Physicochemical studies of cellulose acetate decomposition reactions, 2239
Parravano, G.: see Ruskin, A. M.
Payne, A. R.: Strainwork dependence of filler-loaded vulcanizates, 2661
Pechoč, V.: Determination of intrinsic viscosity from one point measurement, 1281
Peggion, E.: see Crosato-Arnaldi, A.
Perry, E.: Block polymers of styrene and acrylonitrile, 2605
Peterson, C. M., and Livingston, E. M.: Permeability studies with crosslinked cellophane, 1429
Petropoulos, J. C.: see Schiller, A. M.
Pezzin, G., and Gechele, G. B.: Capillary viscometry of molten polycaprolactam, 2195
Phadke, V. B.: see Ghatge, N. D.
Pittsley, J. E.: see Jeanes, A.
Polgar, L.: see Fletcher, J. R.
Porter, R. S.: see Cantow, M. J. R.
——: see Haddon, W. F., Jr.
Pregun, S. E.: see Wolstenholme, W. E.
Pritchard, R., Dunn, T., and Kelly, P.: Effects of morphology and molecular structure on tensile impact behavior of linear polyethylene, 1751
Ram, A., and Tamir, A.: Structural turbulence in polymer solutions, 2751
Rand, L.: see Wissman, H. G.
Rathsack, R. J.: see Roberts, C. W.
Reeves, E. V.: Anomalous flow of cellulose solutions during spinning, 735
Reinking, N. H., Barnabeo, A. E., Hale, W. F., and Mason, J. H.: Polyhydroxyethers I, II, III, 541 (*erratum*)
Relyea, D. I.: see Tawney, P. O.
Rembaum, A.: see Tobolsky, A. V.
Rembaum, A. A.: see Morton, M.
Reynolds, J. A.: see White, W. W.
Rezanowich, A., Yean, W. Q., and Goring, D. A. I.: High resolution electron microscopy of sodium lignin sulfonate, 1801
Ribeiro, D.: see Sivadjian, J.
Richards, G. N.: Ion-exchange membranes by sulfonation of poly(vinylidene fluoride) films, 2269
——: see Masters, A. T.
Roberts, C. W., Haigh, D. H., and Rathsack, R. J.: Fire-retardant polyesters based upon 2,3-dicarboxy-5,8-endomethylene-5,6,7,8,9,9-hexachloro-1,2,3,4,4a,5,8,8a-octahydronaphthalene anhydride, 363
Roberts, R. W., and Kammermeyer, K.: Polymer structure and gas permeation. I. Thermodynamic interpretation of permeation, and II. Permeation studies, 1024 (*erratum*)
Robinson, I. D.: Rate of Crosslinking of Gelatin in Aqueous Solution, 1903
Rollman, K. W.: see Gruver, J. T.
——: see Kraus, G.
Ross, J. A.: see Outhwaite, R. I.
Ross, S. E., and Wolf, H. W.: Factors affecting the heptane solubility of polypropylene polymers and yarns, 1839
Row, S. B.: see Foster, G. N.
Roy-Chowdhury, P.: see Chandra, S.
Ruskin, A. M., and Parravano, G.: Zone fractionation of cyclohexane-rich polystyrene–cyclohexane solid solutions, 565
Russell, C. A.: see Schard, M. P.
Sabia, R.: On the characterization of non-Newtonian flow II, 1053
——: On the characterization of Non-Newtonian flow. III., 1651
Sacerdote, P.: see Mussa, C.
Salomon, G., and Van Bloois, F.: Mechanism of ozone cracking. II. Nucleation and growth of cracks in a plastic film, 1991
Samuelson, O.: see Aggebrandt, L. G.
Sarko, A., Germino, F. J., and Zeitlin, B. R. (Dapas, P. F.): Water-soluble amylose: Preparation and properties, 1343
Sasaki, K.: see Tanaka, A.
Sather, G. A.: see Hansen, C. M.
Saxon, R., and Daniel, J. H., Jr.: Crosslinking reactions of acrylic polymers containing carboxyl groups with melamine resins, 325
——, and Lestienne, F. C.: Curing relations of hexakis (methoxymethyl)-melamine and its combinations with acrylic polymers, 475
Scelia, R. P., Schonfeld, S. E., and Donaruma, L. G.: Some effects of cocatalyst structure on the anionic polymerization of ε-caprolactam, 1363
Schael, G. W.: Determination of polyolefin film properties from refractive index measurements, 2717
Schaffhauser, R. J., Shen, M. C., and Tobolsky, A. V.: Viscoelastic properties

of styrene–acenaphthylene copolymers in the transition region, 2825
Schard, M. P. and Russell, C. A.: Oxyluminescence of polymers. I. General behavior of polymers, 985
——: Oxyluminesceuce of polymers. II. Effect of temperature and antioxidants, 997
Schiller, A. M., Petropoulos, J. C., and Chen, C. S. H.: Linear polymers of 4,4′-(2,2-butylidene)dibenzoic acid, 1699
Schonfeld, S. E.: see Scelia, R. P.
Schonhorn, H.: Generalized approach to adhesion via the interfacial deposition of amphipathic molecules. III. Adhesion of polyethylene to stainless steel, 355
Schors, A.: see Heslinga, A.
Schowalter, W. R.: see Slattery, J. C.
Schultz, R. K.: see Myers, R. R.
Scott, K. W., Lorenz, O., and Parks, C. R.: Network degradation accompanying the vulcanization of natural rubber with a sulfur-diphenylguanidine system, 2909
Sethu, S.: Application to the treatment of natural rubber skim latex, 2249
Sheehan, W. C., and Cole, T. B.: Production of super-tenacity polypropylene filaments, 2359
Sheldon, R. P.: see Hughes, M. A.
Shen, M. C.: see Schaffhauser, R. J.
——: see Takahashi, M.
Shyluk, W. P.: Poly(1,2-dimethyl-5-vinyl-pyridinium methyl sulfate). Part II. Polymers properties, 1063
Silverstein, R. M.: see Fuqua, S. A.
Simionescu, C., Feldman, D., et Oprea, S.: Photopolymérisation du nitrile acrylique en présence des sels de lanthane, 447
Simmens, S. C.: see Farrow, B.
Singleton, G.: see Outhwaite, R. I.
Siradjian, J., and Ribeiro, D.: Comparative studies on the permeability to water and to water vapor of plastic materials by the hygrophotographic technique, 1403
Sircar, A. K.: see Chakravarty, S.
——: see Chatterjee, P. K.
Slattery, J. C.: Analysis of the finite cone-plate viscometer and of the finite parallel-plate viscometer, 2631
——, and Schowalter, W. R.: Effect of surface tension in the measurement of the average normal stress at the exit of a capillary tube through an analysis of the capillary jet, 1941
Solomon, D. H.: see Elgood, E. J.
——: see Fletcher, J. R.
——: see Kelly, D. P.
——: see Melrose, G. J. H.
Sperling, L. H.: see Parks, L. R.
Spiro, J. G., and Winkler, C. A.: On establishing mechanisms of radiation-induced network formation in high polymers, 1709
Stanonis, D. J., and King, W. D.: Steric effects in the preparation and saponification of some fibrous cellulose esters, 943
Stark, C. F.: see Wolstenholme, W. E.
Supnik, R. H.: see Laible, R. C.
——: see Meltzer, T. H.
Suryanarayana, N. P., and Joshi, K. M.: Studies on cation exchange membranes. I. Effect of porosity on the rate of exchange in rubber-based cation exchange membranes from CNSL resin, 1491
Swallow, J. E., and Webb, M. W.: Single and repeated snatch loading of textile yarns, and the influence of temperature on the dynamic mechanical properties, 257
——: see Mikolajewski, E.
Sweeting, O. J.: see Wellisch, E.
Szezesniak, A. S., and MacAllister, R. V.: Study of gelatin gels and the effect of urea on their formation, 1391
Szymanski, C. D.: Ozone oxidation of corn starch, 1597
Tablino, V.: see Mussa, C.
Takahashi, M., Shen, M. C., Taylor, R. B., and Tobolsky, A. V.: Master curves for some amorphous polymers, 1549
Talamini, G.: see Crosato-Arnaldi, A.
Tamblyn, J. W.: see Newland, G. C.
Tamir, A.: see Ram, A.
Tanaka, A., Sasaki, K., Hozumi, Y., and Hashimoto, O.: Polymerizations of nitroalkyl acrylates, 1787
Tannar, W.: see Hoyt, H. E.
Tawney, P. O., Wenisch, W. J., Van der Burg, S., and Relyea, D. I.: Vulcanization with maleimides, 2281
Taylor, R. B., and Tobolsky, A. V.: Viscoelastic properties of plasticized poly(vinyl chloride), 1563
——: see Takahashi, M.
Theocaris, P. S.: Rheologic behavior of epoxy resins in the transition region, 399
Thomas, A. G.: see Gent, A. N.
Thomas, D. K.: Heat aging in fluoroelastomers, 1415
Tippetts, E. A., and Zimmerman, J.: Polymers as fibers, 2465

Tobolsky, A. V., and Rembaum, A.: A new class of block polymers, 307
——: see Meltzer, T. H.
——: see Schaffhauser, R. J.
——: see Takahashi, M.
——: see Taylor, R. B.
Torossian, K. A., and Jones, S. L.: Study of polymers applicable to insulation systems, 489
Trego, B. R.: see Dunn, J. R.
——: see Moore, C. G.
Trexler, H. E., Ilkka, G. A., and Weiss, P.: Noncorrosive nitrile elastomers, 673
Tsien, H. C.: see Maurer, J. J.
Tsou, K. C.: see Hoyt, H. E.
Tsunoda, T. and Yamaoka, T.: Study of the crosslinking of polyvinyl alcohol by light-sensitive tetrazonium salts, 1379
Turetzky, S. B.: see Einhorn, S. C.
Van Beek, L. K. H.: Dielectric behavior of curing phenolic-formal resins, 2843
Van Bloois, F.: see Salomon, G.
Van der Burg, S.: see Tawney, P. O.
Vanderhoff, J. W.: see Jahn, A. K.
Victory, E. L.: High speed compression properties of textile structures and sheet-like materials, 297
Vieth, W. R., Alcalay, H. H., and Frabetti, A. J.: Solution of gases in oriented poly(ethylene terephthalate), 2125
——: see Michaels, A. S.
Volchek, B. Z.: see Vol'kenshtein, M. V.
Vol'kenshtein, M. V., Volchek, B. Z., Gotlib, Yu. Ya., and Nikitin, V. N.: Study of the structure of polymers by infrared spectra, 2923
Warwicker, J. O.: Some observations on the melting behavior of textile fibers. Part II. X-ray examination of hot-stretched nylon 66, 2573
Wasley, W. L.: see Whitfield, R. E.
Watson, A. A.: see Moore, C. G.
Watson, P. R.: see Jeanes, A.
Watt, I. C.: Determination of diffusion rates in swelling systems, 2835
——: Sorption of organic vapors by wool keratin, 1737
Webb, M. W.: see Mikolajewski, E.
——: see Swallow, J. E.
Webb, R. S.: see Furno, F. J.
Weil, N. A.: see Abbott, B. W.
Weiss, P.: see Trexler, H. E.
Wellisch, E., Gipstein, E., and Sweeting, O. J.: Thermal decomposition of polysulfones, 1623
Wenisch, W. J.: see Tawney, P. O.
Whewell, C. S.: see Mathieson, A. R.
White, J. L.: A continuum theory of nonlinear viscoelastic deformation with application to polymer processing, 1129
——: Dynamics of viscoelastic fluids, melt fracture, and the rheology of fiber spinning, 2339
White, R. C.: see Georgieff, K. K.
White, W. W., Reynolds, J. A., and Gilbert, R. D.: Factors affecting the promoted aggregation and coalescence of synthetic rubber particles, 2049
Whitfield, R. E., Miller, L. A., and Wasley, W. L.: Interfacial polycondensation. I. The formation of surface graft polymers on wool, 1607
Wiersema, A. K.: see Windle, J. J.
Wilchinsky, Z. W.: see Kirshenbaum, I.
Williams, P. E.: see Mathieson, A. R.
Williams, S. A.: The effect of temperature on polyacrylate- and CMC-treated drilling muds, 1015
Wilson, T.: see Learmonth, G. S.
Windle, J. J., and Wiersema, A. K.: Effects of mechanical action on the electron paramagnetic resonance of wool and silk, 1531
Winkler, C. A.: Spiro, J. G.
Wissman, H. G., Rand, L., and Frisch, K. C.: Kinetics of polyether polyols–diisocyanate reaction, 2971
Witnauer, L. P.: see Kahn, L. D.
Wolf, H. W.: see Ross, S. E.
Wolstenholme, W. E., Pregun, S. E., and Stark, C. F.: Factors influencing Izod impact properties of thermoplastics measured with the autographic impact test, 119
Wood, L. A.: see Linnig, F. J.
Wright, B. A.: see Cox, J. M.
Wright, J. R.: see Gray, V. E.
Wright, W. W.: see Cox, J. M.
Wrigley, A. N.: see Jordan, E. F., Jr.
Yamaguchi, S.: see Nomura, H.
Yamaoka, T.: see Tsunoda, T.
Yean, W. Q.: see Rezanowich, A.
Yelland, W. E. C.: see Dogliotti, E. C.
Yin, T. P., and Pariser, R.: Dynamic mechanical properties of several elastomers and their potentialities in vibration control applications, 2427
Zabusky, H. H.: see Heitmiller, R. F.
Zachar, A. W.: see Becker, H.
Zagoren, B. L.: see Otey, F. H.
Zeitlin, B. R.: see Sarko, A.
Zilkha, A.: see Feit, B.-A.
Zimmerman, J.: see Tippetts, E. A.

SUBJECT INDEX, VOLUME 8

Acetylene, conjugated and unconjugated, effect on polymerization rate of vinyl acetate, 881
Acid-base properties of fibers, 2009, 2029
Acrylic copolymers, thermosetting 1919 (*erratum*)
Acrylic latex film formation, in the critical temperature range, 755
Acrylic polymers, combinations with hexakis (methoxymethyl) melamine, 475
  crosslinking reactions, 325
Acrylonitrile, block polymers of, 2605
  photopolymerization in presence of lanthanium salts, 447
Adhesion, of polyethylene to stainless steel, 355
Adhesive application, high temperature, evaluation of poly(2,6-dimethyl)-1,4-phenylene oxides and related copolymers, 1633
Adhesive blends, interaction of nylon polymers with epoxy resins, 1287
Alkyd resins, chemistry, 625
  molecular weight distribution, 659
Alkyds, of more complex carboxyl functionality, synthesis, and properties, 1147
N-Allylstearamide, monomer reactivity ratios, 527
Amides, wet oxidation of, 2067
Amphipathic molecules, interfacial deposition, 355
Amylose, water-soluble, preparation and properties, 1343
Anion exchange resin, neophyl type, preparation and properties of, 1559
Anionic polymerization, ε-caprolactam, 1363
  graft of vinyl monomers on cellulose and polyvinyl alcohol, 1869
Anomalous flow, of cellulose solutions, 735
Antioxidants, effect on oxyluminescence of polymers, 997
  properties of carbon black, 1169
Aqueous solution, rate of crosslinking of gelatin in, 1903
Atmosphere, effect on radiation-induced crosslinking of polyethylene, 467
Autographic impact test, measuring thermoplastics, 119
Autoxidation, of peroxide vulcanizates of natural rubber, 699
Ballistic tool, adaptation for obtaining strain rates above 20,000 inch/inch/minute, 197
Block copolymerization of unsaturated monomers and octamethylcyclotetrasiloxane, 2707
Block polymerization, of vinyl chloride, 1275
Blowing agent, as cyanuric chloride–sodium carbonate, 1297
Branching, effect on physical and mechanical properties of stereoregular polypropylene, 825
Brice light-scattering photometer, modification, 439
Brittle materials, strain rate effects, 151
Bromine compounds, self-extinguishing action in polystyrene, 2485
B-staging, controlled polymerization, 1443
4,4′-(2,2-Butylidene)dibenzoic acid, linear polymers of, 1699
Capacitance technique, linear expansion measurements of polymers by means of, 1719
Capillary extrusion, in rheological properties, 1257
  of polyethylene, 873
Capillary tube, measurement of stress at exit, 1941
Capillary viscometry of molten polycaprolactam, 2195
ε-Caprolactam, anionic polymerization, 1363
Carbon black, antioxidant properties in unsaturated elastomers, 1169
  polymer interaction, measure of reinforcement, 2687
Carboxyl functionality, complex, of some alkyds, 1147
Carboxyl groups, with melamine resins, in acrylic polymers, 325
Catalysts, as cation exchange resins, 1305
  effect on thermal polymerization of shellac, 1205

for polymerization of diisopropenylbenzenes, 521
Cation exchange resins, in preparation of polyesters, 1305
Cellophane, crosslinked, permeability studies, 1429
Cellulose, amorphous, relation to moisture sorption, 1213
amorphous, spectra of, 1311
anionic graft polymerization of vinyl monomers on, 1869
crystallinity, relation of infrared bands, 1311, 1325
crystallite orientation in regenerated filaments, effect of degree of polymerization and sketch, 1583
oxidation of microfibril segments, by alkaline silver nitrate, 2763
penetration of water-soluble polymers into fibers, 2801
radiochemical yields of graft polymerization reactions of, 2813
solutions, anomalous flow, 735
Cellulose acetate decomposition reactions, 2239
Cellulose esters, fibrous, preparation and saponification, 943
Celluloses, I and II, crystallinity, 1325
Chain scission during vulcanization, sol-gel analysis, 1619
N-Chloro compounds as synergists for self-extinguishing action of bromine compounds in polystyrene, 2485
Chromium compounds, light-sensitized crosslinking of polyvinyl alcohol, 1763
CNSL resin, rubber-based cation exchange membranes, 1491
Cocatalyst structure, effects on anionic polymerization of ϵ-caprolactam, 1363
Collagen, hydration and density of, 1813
Color reactions with phenylenediamines, in measurement of photochemical degradation in certain plastics, 1505
Column fractionation of polymers, IV, large-scale polyester column fractionation, 2963
Composition, effects on glass transition temperature of methyl methacrylate–styrene copolymers, 1825
Compressibility, partial specific, of dextran, 2731
of polystyrene, 1643
Continuum theory, of nonlinear viscoelastic deformation, 1129
Controlled polymerization, in unsaturated polyesters, 1443
Copolymerization, block, of unsaturated monomers and octamethylcyclotetrasiloxane, 2707
Copolymers, acrylic, thermosetting, 1919 (*erratum*)
dibutyl maleate–ethylene films, gas permeability of, 2735
ethylene–propylene, crystallinity, infrared, and creep studies, 2645
styrene–acenaphthylene, viscoelastic properties of, 2825
styrene–butadiene rubber, sedimentation analysis of, 2853
Core melting during hot-stretching of nylon, 2545
Corn starch, ozone oxidation of, 1597
Cracks, growth of, in plastic film, 1991
Creep studies, ethylene–propylene copolymers, 2645
crosslinking, acrylic polymers containing carboxyl groups, 325
light-sensitized, of polyvinyl alcohol by chromium compounds, 1763
polyvinyl alcohol, 1379
radiation-induced, 467
rate for gelatin in aqueous solution, 1903
Cryptococcus laurentii var. *flavescens* NRRL Y-1401, extracellular polysaccharide produced from glucose by, 2775
Crystal lattice type, relation of infrared bands, 1311, 1325
Crystallinity, ethylene–propylene copolymers, 2645
in celluloses I and II, 1325
poly(ethylene terephthalate), 1521
Crystallite orientation in regenerated cellulose filaments, effect of degree of polymerization and stretch, 1583
Crystallization, copolymers of polyoxymethylene, 2225
Curing relations, of hexakis (methoxymethyl) melamine, 475
Cut growth, of rubbers, 455
Cyanuric chloride–sodium carbonate, as blowing agent, 1297
Decomposition, thermal, of polysulfones, 1623
Deformation properties, effect of, on friction of polymer films, 1477
Degradation, high temperature oxidative, of phenol–formaldehyde polycondensates, 2163
network, accompanying the vulcaniza-

tion of natural rubber with a sulfur–dephenylguanidine system, 2909
thermal, of fluorine-containing polymers, I, in vacuum, 2935, II, in oxygen, 2951
of resins, 2873
ultrasonic, of sol rubber in solution, 2653
Degree of vulcanization, influence on mechanical properties of hard rubber polyblends, 773
DEMDI, kinetics of reactions, 935
Density of collagen and gelatin, 1813
Dextran, partial specific compressibility of, 2731
Diagrams of X-ray diffraction, fibers of regenerated cellulose, 2305
Dibutyl maleate–ethylene copolymer films, gas permeability of, 2735
2,3-Dicarboxy-5,8-endomethylene-5,6,7,8,9,9-hexachloro-1,2,3,4,4a,-5,8,8a-octahydronaphthalene anhydride, fire retardant polyesters, 363
Dielectric behavior of curing phenolic–formal resins, 2843
Dielectric properties, of epoxy resin, 2299
Diffusion rates in swelling systems, 2835
Diisocyanates, unsymmetrical, 533
kinetics of reactions of DEMDI, 935
Diisopropenylbenzenes, polymerization, 521
Dilatation, of granular filled elastomers, 25
Disulfides, cleavage of disulfide polymers, 603
Double-base propellant, tensile properties of, 3
Drilling muds polyacrylate-treated, effect of temperature, 1015
Dryblending behavior, of commercial polyvinyl chloride, 1221
Dynamic testing, of elastomer mountings, 53
Eddy current drive, for use in viscometry, 863
Elastomer mountings, dynamic testing of, 53
Elastomers, dynamic mechanical properties, 2427
granular filled, dilatation of, 25
potentialities in vibration control applications, 2427
unsaturated, *cis*-polybutadiene, 1169
Electron microscopy, of sodium lignin sulfonate, 1801
Electron paramagnetic resonance of wool and silk, 1531
Entropy of fusion of polypropylene, 2723
Epoxy resins, dielectric properties of, 2299
interaction with nylon polymers, 1287
rheologic behavior, 399
EPR, reinforced, tensile strength, 555
Equivalent cures, for SBR hard rubber polyblends, 791
Ethers, polyoxyalkylene, determination of hydroxyl number, 1985
Ethylene-propylene, copolymers, crystallinity, infrared, and creep studies, 2645
rubber, structure of sulfur linkages in, 1957
Fatigue, of rubbers, 455
Fibers, acid-base properties, 2009, 2029
high polymer, nonlinear mechanical energy losses in, 2067
melt extrusion of, 2389
polymers, 2465
structures of regenerated cellulose, 2305
textile, melting behavior of, 2545, 2573
Fillers, influence on mechanical properties of hard rubber polyblends, 773
Film formation, mechanism, 687
Fire-retardant polyesters, based upon 2,3-dicarboxy-5,8-endomethylene-5,6,7,8,9,9-hexachloro-1,2,3,4,-4a,5,8,8a-octahydronaphthalene anhydride, 363
Fluorine-containing polymers, thermal degradation of, I, in vacuum, 2935, II, in oxygen, 2951
Fluoroelastomers, heat aging, 1415
Foaming-in-place beads, self-extinguishing polystyrene, 2525
Fractionation, of polyester, 2963
Free radical initiators, synergism of, 2497
Friction, of polymer films, I, 1465, II, 1477
Fusion, heat and entropy of, of polypropylene, 2723
Gas bearing bob suspension, for use in viscometry, 863
Gas permeability apparatus for films and sheets, 2883
Gas permeability of highly oriented dibutyl maleate–ethylene copolymer films, 2735
Gas permeation, thermodynamic interpretation and permeation studies, 1024 (*erratum*)
Gel point concept, implications to the chemistry of alkyd resins, 625

Gelatin, crosslinking in aqueous solution, 1903
gelatin coatings and tensile strength of films, 2139
gels, effect of urea on their formation, 1391
hydration and density of, 1813
rate of crosslinking in aqueous solution, 1903
Geometry effects, in styrene polyblend systems, 73
Glass transition temperature of methyl methacrylate–styrene compounds, 1825
Glucose, extracellular polysaccharide produced from, 2775
Graft polymerization, anionic, of vinyl monomers, 1869
Grafting onto a styrene–butadiene backbone, 1777
Gum, tensile strength, 555
Hard rubber polyblends, mechanical properties, 773
shear modulus–temperature relationships, 765
Heat aging, in fluoroelastomers, 1415
Heat of fusion of polypropylene, 2723
Heptane solubility of polypropylene polymers and yarns, 1839
Hexakis (methoxymethyl) melamine, curing relations, 475
High polymeric fibrous materials, viscoelastic properties, 211
High speed compression properties, of textile structures and sheet-like materials, 297
High speed tensile behavior, in styrene polyblend systems, 73
High speed testing, as a measure of resistance, 283
location of a phase change area, 111
puncture, of thermoplastics, 101
tensile, as an index of oxidative degradation, 89
Homogeneity, effect on viscosity, 873
Hydration of collagen and gelatin, 1813
Hydroxyl number of polyoxyalkylene ethers, 1985
Hygrophotographic technique, studies on permeability to water and to water vapor, 1403
Hysteresis, at various strain rates, 37
Infrared, ethylene–propylene copolymers, 2645
ratio for estimation of crystallinity, 1325
relation of bands to cellulose crystallinity and crystal lattice type, 1311, 1325
spectra, study of structure of polymers by, 2923
spectrometry of polymers, 1357
Insulation systems, application of polymers, 489
Interfacial deposition, of amphipathic molecules, 355
Intrinsic viscosity, determination from one point measurement, 1281
Ion-exchange membranes, application to treatment of natural rubber skim latex, 2249
by sulfonation of poly(vinylidene fluoride) films, 2269
Ionizing radiation, effect on polyethylene thermal stability, 1455
Irradiation, effects on glass transition temperature of methyl methacrylate–styrene copolymers, 1825
Izod impact properties, of thermoplastics, 119
Keratin, wool, sorption of organic vapors, 1737
Kinetics, of polyether polyols–diisocyanate reaction, 2971
of quaternization of poly(*ar*-vinylbenzyl) chloride, 953
vulcanization reaction accelerated with 2-mercaptobenzothiazole, 1667
Lanthanium salts, in photopolymerization, 447
Lattice types I, II, III, spectra, 1311
Linear expansion measurements of polymers by means of a capacitance technique, 1719
Linear polymers of 4,4′-(2,2-Butylidene)-dibenzoic acid, 1699
Liquids, transport, 897
Lubrication, of polymer films, 1465
Maleimides, vulcanization with, 2281
Master curves for some amorphous polymers, 1549
Mastication, behavior of *cis*-polybutadiene during, 2585
CMC-treated drilling muds, effect of temperature, 1015
Mechanical action on the electron paramagnetic resonance of wool and silk, 1531

Mechanical behavior, of some lightly cross-linked rubbers, 511
Mechanism, polyethylene oxidation, 1691
Medium-speed tensile testing machine, 169
Melamine resins, in carboxyl groups, 325
Melt fracture, dynamics of, 2339
Melt index, for narrow distribution, high pressure polyethylene whole polymers, 839
Melt spinning, influence of variables on tensile properties of high density polyethylene fibers, 2399
problems, 1097
Melting, behavior of textile fibers during melting, 2545, 2573
copolymers of polyoxymethylene, 2225
Membranes, cation exchange, studies, 1491
Memory effects in irradiated polyethylene, 1853
2-Mercaptobenzothiazole, kinetic studies on vulcanization reaction accelerated with, 1667
Methyl methacrylate, copolymers of, with phenyldichlorophosphine, 2117
polymerization activity test, 503
Methyl methacrylate–styrene copolymers, effects of composition and irradiation on glass transition temperature of, 1825
Methylolacrylamide copolymers, plasticization by grafting onto a styrene–butadiene backbone, 1777
Mixing, degree of, relation to rheological behavior in mechanical mixture of two polymer components, 2147
Moisture sorption, relation of cellulose, 1213
Molecular orientation, in course of melt spinning, 1097
Molecular structure, effects on tensile impact behavior of linear polyethylene, 1751
Molecular weight distribution, effect on sprayability of poly(methyl methacrylate), 881
high pressure polyethylene whole polymers, 839
in alkyd resins, 659
of a polyester, 2479
Monomers, reactivity ratios of *N*-octadecylacrylamide, and *N*-allylstearamide, 527
unsaturated, block copolymerization of, 2707
vinyl, anionic graft polymerization of, 1869
Morphology, effect on biaxial stress rupture on polyethylene, 1889
effects on tensile impact behavior of linear polyethylene, 1751
Natural rubber, peroxide vulcanizates, 699
skim latex, application of ion-exchange membranes, to treatment of, 2249
thiol group formation in vulcanization of, 2261
Natural rubber–sulfur vulcanizates, unaccelerated, stress relaxation, 723
Needle-punched felts, resistance to penetration, 283
Neophyl type anion exchange resin, preparation and properties, 1659
Network characterization, from stress-strain behavior, 545
Network formation in high polymers, radiation-induced, mechanisms of, 1709
Nitrile elastomers, noncorrosive, 673
Nitrile rubber/PVC compounds, vulcanized, 1007
Nitroalkyl acrylates, polymerizations of, 1787
N-Nitroso compounds as synergists for self-extinguishing action of bromine compounds in polystyrene, 2485
Nitrous oxide, sensitizing effect, 467
Nonlinear mechanical energy losses in high polymer fibers, 2095
Nonlinear viscoelastic deformation, a continuum theory, 1129
Non-Newtonian flow, characterization, II, 1053, III, 1651
Novel curing systems, for chlorosulfonated polyethylene, 337
Nucleation, in plastic film, 1991
Nylon, acid-base properties, 2009
core melting during hot-stretching of, 2545
interaction of polymers with epoxy resins, 1287
Nylon 66, undrawn, wet oxidation of, 2067
X-ray examination of hot-stretched, 2573
N-Octadecylacrylamide, monomer reactivity ratios, 527
Octamethylcyclotetrasiloxane, block polymerization of, 2707
Olefins, conjugated and unconjugated, effect on polymerization rate of vinyl acetate, 881
One point measurement, determination of intrinsic viscosity, 1281
Organic sulfur compounds, effect on the

autoxidation and stress relaxation of peroxide vulcanizates, 699
Organic vapors, sorption of by wool keratin, 1737
Oxidation, of cellulose microfibril segments by alkaline silver nitrate and its relation to the fine structure of cellulose, 2763
of rubber, 1029
ozone, of corn starch, 1597
wet, of undrawn nylon 66 and model amides, 2067
Oxidation–reduction polymers, oxygen-transfer resins, 2899
Oxidative degradation, of polyethylene resins, 89
Oxygen-transfer resins, new type of oxidation–reduction polymers, 2899
Oxyluminescence, effect of temperature and antioxidants on polymers, 997
general behavior of polymers, 985
Ozone, mechanism of cracking, 1991
oxidation of corn starch, 1597
Pectic acid films, properties, 813
Penetration of water-soluble polymers into cellulose fibers, 2801
Permeability, gas apparatus, for films and sheets, 2883
gas, of highly oriented dibutyl maleate–ethylene copolymer films, 2735
studies with crosslinked cellophane, 1429
Peroxide, vulcanizates, of natural rubbers, autoxidation and stress relaxation, 699
vulcanization of synthetic *cis*-polyisoprene, 1619
Phase change area, location, 111
Phenol–formaldehyde polycondensates, high temperature oxidative degradation of, 2163
Phenolic–formal resins, 1921
dielectric behavior of, 2843
Phenyldichlorophosphine, copolymers of methyl methacrylate with, 2117
effect of concentration on intrinsic viscosity of copolymers of methyl methacrylate with phenyldichlorophosphine, 2117
Phenylenediamines, color reactions with in measurement of photochemical degradation in certain plastics, 1505
Phenylene-perfluoroalkylene silicones, 1729
Photochemical degradation in certain plastics by color reactions with phenylenediamines, 1505
Photoelectric polarimetry, by the Rouy method, 439
Photomechanical materials, thermal expansion, 613
Photomechanics, exploratory studies, 413
Photopolymerization, of acrylonitrile, 447
Physicochemical studies of cellulose acetate decomposition reactions, 2239
Plastic film, nucleation and growth of cracks, 1991
Plastic materials, permeability to water vapor, studies by hygrophotographic technique, 1403
Plasticization of methylolacrylamide copolymers by grafting onto a styrene–butadiene backbone, 1777
Plastics, blowing agent in, 1297
cis-Polybutadiene, behavior during mastication, 2585
studies of antioxidant properties, 1169
Polybutenes, characterization, 1371
Polycaprolactam, molten, capillary viscometry of, 2195
Polycarbonate films, temperature dependence of tensile properties of, 1677
Polycondensation, interfacial, formation of surface graft polymers on wool, 1607
Poly(2,6-dimethyl)-1,4-phenylene oxides, evaluation of for high temperature adhesive application, 1633
Poly(1,2-dimethyl-5-vinylpyridinium methyl sulfate), polymer properties, 1063
Polyelectrolyte theory of the combination of fibers with acids and bases, 2029
Polyesters column fractionation, 2963
molecular weight distribution of, 2479
preparation, 1305
unsaturated, controlled polymerization, 1443
Polyether polyols–diisocyanate, kinetics of reaction, 2971
Polyethylene, adhesion to stainless steel, 355
capillary extrusion, 873
chlorosulfonated, novel curing systems, 337
effect of morphology on biaxial stress rupture on, 1889
high density fibers, influence of melt spinning variables on tensile properties of high density polyethylene fibers, 2399

irradiated, memory effects in, 1853
linear, effects of morphology and molecular structure on tensile impact behavior of, 1751
mechanism of oxidation, 1691
oxidative degradation of resins, 89
radiation-induced crosslinking, 467
slip deformation in drawn films, 971
structurally modified, transport of liquids, 897
thermal stability of, effect of ionizing radiation on, 1455
whole polymers, narrow distribution, high pressure, 839
Poly(ethylene terephthalate), determination of crystallinity, 1521
oriented, solution of gases in, 2125
thermal studies on, 1541
Polyhydroxyethers, 541 (*erratum*)
cis-Polyisoprene, synthetic, peroxide vulcanization of, 1619
cis-1,4-Polyisoprene, structure of sulfur linkages in, 1957
cis-1,4-Polyisoprene tetramethylthiuram disulfide zinc oxide system, structural characterization, 581
Polymer films, friction and lubrication, 1465
friction of, effect of deformation properties, 1477
Polymer solutions, structural turbulence in, 2751
Polymer–filler interaction, vapor sorption studies of, 1483
Polymerization, activity test for methyl methacrylate, 503
activity test for vinyl chloride, 2213
graft reactions of cellulose, radiochemical yields of, 2813
of diisopropenylbenzenes, 521
of nitroalkyl acrylates, 1787
of vinyl acetate, 881
Polymers, amorphous, master curves of, 1549
applicable to insulation systems, 489
as fibers, 2465
block, a new class, 307
of styrene and acrylonitrile, 2605
infrared spectrometry, 1357
lightly crosslinked, mechanical behavior, 511
molten stress relaxation, 385
oxidation–reduction, oxygen-transfer resins, 2899
oxyluminescence, general behavior, 985
effect of temperature and antioxidants, 997
processing, application of a continuum theory, 1129
structure, study by infrared spectra, 2923
vinyl aromatic, synergism of free radical initiators in, 2497
water-soluble, penetration into cellulose fibers, 2801
Poly(methyl methacrylate), sprayability, 881
Poly-4-methyl-1-pentene, 2789
Polyolefin film properties, determination from refractive index measurements, 2717
Polyolefins, semicrystalline, poly-4-methyl-1-pentene, 2789
Polyoxymethylene, copolymers of, crystallization and melting, 2225
Polypropylene, heat and entropy of fusion of, 2723
heptane solubility of polymers, 1839
isotactic, temperature–strain rate transformations with, 1577
stereoregular, physical and mechanical properties, 825
super-tenacity filaments, 2359
Polypyromellitamic acids, aromatic, spontaneous degradation, 1039
Polysaccharide, extracellular, produced from glucose by *Cryptococcus laurentii* var. *flavescens* NRRL Y-1401, 2775
Polystyrene, antistatic, 801
partial specific compressibility of, 1643
self-extinguishing action of bromine compounds in, 2485
self-extinguishing foaming-in-place beads, 2525
Polystyrene–cyclohexane solid solutions, zone fractionation, 565
Polysulfones, thermal decomposition of, 1623
Polyurethane, stabilization to thermal degradation, 1089
Polyvinyl alcohol, anionic graft polymerization of vinyl monomers on, 1869
crosslinking by light-sensitive tetrazonium salts, 1379
light-sensitized crosslinking by chromium compounds, 1763
Poly(*ar*-vinylbenzyl chloride), quaternization with trimethylamine, 953
Poly(vinyl chloride), commercial, dry blending behavior, 1221

plasticized, viscoelastic properties of, 1563
solvent power of solvents for, 2619
thermal dehydrochlorination, 747
Poly(vinylidene fluoride) films, sulfonation of to create ion-exchange membranes, 2269
Porosity, effect on rate of exchange in rubber-based cation exchange membranes, 1491
Quaternization, of poly(*ar*-vinylbenzyl chloride), 953
Radiation-induced network formation in high polymers, mechanisms of, 1709
Radiochemical yields of graft polymerization reactions of cellulose, 2813
Rapid bursting, of tubular specimens, 141
Rate of crosslinking of gelatin in aqueous solution, 1903
Refractive index measurements, determination of polyolefin film properties from, 2717
Reinforcement, carbon black–polymer interaction, 2687
Relative inhibitory effect, on rate of polymerization of vinyl acetate, 889
Resins, alkyd, chemistry of, 625
neophyl type anion exchange, preparation and properties, 1659
oxygen-transfer, 2899
phenolic–formal, 1921
thermal degradation of, 2873
Resonance, electron paramagnetic, of wool and silk, 1531
Rheologic behavior, in transition region, 399
relation to degree of mixing in mechanical mixture of two polymer components, 2147
Rheological properties, of SBR polymers, 1257
Rheology of fiber spinning, dynamics of, 2339
Rouy method, in photoelectric polarimetry, 439
Rubber, blowing agent in, 1297
cut growth, 455, 707
fatigue, 455, 707
natural, structure of sulfur linkages in, 1957
vulcanization of, with a sulfur–diphenylguanidine system, 2909
noncrystallizing, 707
tensile rupture and crack growth, 1113
products from oxidation of, 1029
raw natural, stress relaxation, 1077
sol, ultrasonic degradation, 2653
styrene–butadiene copolymer, sedimentation analysis of, 2853
Rupture, biaxial stress, on polyethylene, 1889
of rubber, 1113
Salicylates, aromatic, in ultraviolet stabilization of polymers, 1949
Saponification, of fibrous cellulose esters, 943
SBR, hard rubber polyblends, temperature coefficient of vulcanization, 791
polymers, rheological properties, 1257
vulcanizates, tensile strength, 555
Sedimentation analysis of styrene–butadiene copolymer rubber, 2853
Self-extinguishing, action of bromine compounds in polystyrene, *N*-chloro and *N*-nitroso compounds as synergists for, 2485
polystyrene foaming-in-place beads, 2525
synergism of free radical initiators with self-extinguishing additives, 2497
Shear modulus–temperature relationships, hard rubber polyblends, 765
Sheet-like materials, high speed compression properties, 297
Shellac, kinetics of thermal polymerization, 1185, 1205
Silicones, phenylene-perfluoroalkylene, 1729
Silk, electron paramagnetic resonance of, 1531
Silver nitrate, alkaline, oxidation of cellulose microfibril segments by, 2763
Simple stress relaxometer, use with vulcanized nitrile rubber/PVC compounds, 1007
Slip deformation, in drawn polyethylene films, 971
Snatch loading, single and repeated, of textile yarns, 257
Sodium di-*n*-butyl phosphite, use in determining structure of sulfur linkages in vulcanizate networks, 1957
Sodium lignin sulfonate, high resolution microscopy of, 1801
Sol rubber, ultrasonic degradation, 2653
Sol-gel analysis to estimate chain scission during vulcanization, 1619
Solubility, heptane, of polypropylene polymers and yarns, 1839

Solution viscosity, for narrow distribution, high pressure polyethylene whole polymers, 839
Solvents, for poly(vinyl chloride), 2619
Sorption of organic vapors by wool keratin, 1737
Spectra, of amorphous cellulose, 1311
of lattic types I, II, III, 1311
Spin line, deviations from steady-state behavior, 2389
Spontaneous degradation, of aromatic polypyromellitamic acids, 1039
Sprayability, of poly(methyl methacrylate), 881
Stabilization, of polyurethane to thermal degradation, 1089
ultraviolet, of polymers by aromatic salicylates, 1949
Stainless steel, adhesion of polyethylene, 355
Steady shearing, stress relaxation after, 849
Steric effects, in preparation and saponification of cellulose esters, 943
Strain rate effects, in brittle materials, 151
Strains, temperature-strain rate transformations with isotactic polypropylene, 1577
Strainwork dependence of filler-loaded vulcanizates, 2661
Stress, at exit of capillary tube, 1941
Stress relaxation, after steady shearing, 849
at various strain rates, 37
in molten polymers, 385
of peroxide vulcanizates of natural rubber, 699
of raw natural rubber, 1077
of unaccelerated natural rubber–sulfur vulcanizates, 723
Stress-strain behavior, at large extensions, 545
Styrene, block polymers of, 2605
Styrene–acenaphthylene copolymers, viscoelastic properties of, 2825
Styrene–butadiene, copolymer rubber, sedimentation analysis of, 2853
grafting onto backbone, 1777
Styrene polyblend systems, geometry effects and high speed tensile behavior, 73
Sulfonation, of poly(vinylidene fluoride) films to create ion-exchange membranes, 2269
Sulfur linkages, in ethylene-propylene vulcanizate, 1957
in natural rubber vulcanizate, 1957
in *cis*-1,4-polyisoprene vulcanizate, 1957
Sulfur–diphenylguanidine system, vulcanization of natural rubber with, 2909
Surface graft polymers on wool, 1607
Surface tension, in measurement of stress at exit of capillary tube, 1941
Swelling systems, diffusion rates in, 2835
Synergism of free radical initiators with self-extinguishing additives in vinyl aromatic polymers, 2497
Synergists, *N*-chloro and *N*-nitroso compounds as, 2485
Temperature, dependence of tensile properties of polycarbonate films on, 1677
effect on oxyluminescence of polymers, 997
effect on polyacrylate- and CMC-treated drilling muds, 1015
influence on dynamic mechanical properties of textile yarns, 257
Temperature–strain rate transformations with isotactic polypropylene at finite strains, 1577
Tensile impact behavior of linear polyethylene, 1751
Tensile properties, effect of rate and temperature on, 3
Tensile strength, of gelatin films, 2139
of gum and reinforced EPR and SBR vulcanizates, 555
Tetrazonium salts, light-sensitive, study of crosslinking, 1379
Textile structures, high speed compression properties, 297
Textile yarns, single and repeated snatch loading, 257
Thermal degradation, of fluorine-containing polymers, I, in vacuum, 2935, II, in oxygen, 2951
of resins, 2873
stabilization of polyurethane, 1089
Thermal dehydrochlorination, of poly(vinyl chloride), 747
Thermal expansion, of photomechanical materials, 613
Thermal polymerization, of shellac, 1185, 1205
Thermal stability, of polyethylene, effect of ionizing radiation on, 1455

Thermal studies on poly(ethylene terephthalate), 1541
Thermogravimetric analysis, of effect of ionizing radiation on polyethylene, 1455
Thermoplastics, high speed puncture testing, 101
Izod impact properties, 119
Thermosetting vinyl and acrylic copolymers, 1919 (*erratum*)
Thiol group formation in vulcanization of natural rubber, 2261
Toluene diisocyanate, in determination of hydroxyl number of polyoxyalkylene ethers, 1985
Transport, of liquids, 897
Trimethylamine, in quaternization of poly(*ar*-vinylbenzyl chloride), 953
Triphenylphosphine, in treatment of natural rubber–sulfur vulcanizates, 723
use in determining structure of sulfur linkages in vulcanizate networks, 1957
Tubular specimens, rapid bursting, 141
Turbulence, structural, in polymer solutions, 2751
Ultrasonic degradation of sol rubber in solution, 2653
Unsaturated monomers, block copolymerization of, 2707
Urea, effect on formation of gelatin gels, 1391
Urethane foams, rigid, strength, temperature, and chemical/physical structures, 2445
water vapor, permeability, and chemical/physical structure, 2462 (*erratum*)
Vapor sorption studies, of polymer-filler interaction, 1483
Vinyl acetate, effect of various compounds on rate of polymerization, 881
Vinyl aromatic polymers, synergism of free radical initiators in, 2497
Vinyl chloride, block polymerization mechanism, 1275
polymerization activity test, 2213
Vinyl copolymers, thermosetting, 1919 (*erratum*)
Vinyl monomers, anionic graft polymerization of, 1869
Viscoelastic fluids, dynamics of, 2339
Viscoelastic properties, effect of strain rate, 211
of plasticized polyvinyl chloride, 1563
of styrene–acenaphthylene copolymers in the transition region, 2825
Viscometer, finite cone-plate, 2631
finite parallel-plate, 2631
Viscometry, capillary, of molten polycaprolactam, 2195
use of eddy current drive and gas bearing bob suspension, 863
Viscosity, effect of homogeneity, 873
intrinsic, of copolymers of methyl methacrylate with phenyldichlorophosphine, 2117
Vulcanizates, filler-loaded, strainwork dependence of, 2661
structural characterization, 581, 1957
Vulcanization, of natural rubber, thiol group formation in, 2261
with a sulfur–diphenylguanidine system, network degradation, 2909
peroxide, of synthetic *cis*-polyisoprene, 1619
reaction accelerated with 2-mercaptobenzothiazole, kinetic studies on, 1667
temperature coefficient, 791
use of sol-gel analysis to estimate chain scission during, 1619
with maleimides, 2281
Water vapor, studies on the permeability, 1403
Wool, electron paramagnetic resonance of, 1531
formation of surface graft polymers on, 1607
keratin, sorption of organic vapors by, 1737
Xenon, sensitizing effect, 467
X-ray, determination of crystallinity in poly(ethylene terephthalate), 1521
examination of hot-stretched nylon 66, 2573
Yarns, heptane solubility of, 1839
Zone fractionation, of polystyrene–cyclohexane solid solutions, 565